AM Radio Around the World: Fading Away or Here to Stay?

By Bruce A. Conti, WPC1CAT

"If this global survey of AM radio activity is any indication, 'Antique Modulation' won't be going away anytime soon"

There's been plenty of discussion lately about the demise of AM radio. Does AM have a future, or is it an anachronism? Perhaps a survey of the state of AM radio around the world will provide some insight.

DAB in the UK

The United Kingdom plans to phase out AM radio in 2016, switching to FM and DAB (Digital Audio Broadcasting) terrestrial broadcasting <http://bit.ly/YCP5Jg>. Test trials have already taken place over the past year in which AM radio stations were shutdown, some temporarily, to determine whether or not FM and DAB coverage is adequate, and to develop a switchover plan especially in terms of how to inform the public.

The Vatican Radio transmitter site is located in the densely populated Rome metro area, as viewed here from the top of St. Peter's. Authorities allege that increased rates of cancer for those living in close proximity to the antennas are due to RF exposure from the site. *(Courtesy of Gaius Cornelius via Wikimedia Commons)*

The "MW trials" involved Radio Essex, Radio Hereford & Worcester, Radio Nottingham, and Radio Kent. A repeating message was broadcast in place of regular programs advising listeners to tune into FM.

The latest switchover communications plan submitted in February by the UK government's Department for Culture, Media, and Sport (DCMS) outlines some of the details still to be worked out as the switch to DAB proceeds.

Many AM broadcasters are already simulcasting on DAB. "On DAB digital radio, and 1089 and 1053 AM, TalkSport," for example is the announcement heard at the top of every hour on the TalkSport network stations. The 2013 Digital Radio Action Plan reports are available online at <http://bit.ly/YancvS>.

Vatican RF Debate

The Vatican terminated 600-kilowatt AM radio transmissions on 1530 kHz last year, but it wasn't because of declining AM listenership. Italy has adopted the strictest RF pollution regulations in Europe, citing cancer concerns from long-term exposure.

The Vatican Radio transmitter site is located in the densely populated Rome metro area. Increased rates of cancer for those living in close proximity to the antennas are claimed to have been due to RF exposure from the site. It was last July when Vatican Radio announced the suspension of medium and shortwave services after 80 years of broadcasting. Services have been replaced by FM, DAB, and the "Vatican Player" online. It's worth noting that in a press release announcing new communications strategies <http://bit.ly/MvdYVH>, there is no mention of the RF exposure issue.

In addition to 1530, in March of this year the Vatican closed what was Europe's only station on 1611 kHz. Vatican Radio continues to broadcast on AM at 585 and 1260 kHz with 5 kilowatts of power.

Italy is in the process of closing its AM operations as well. The Rai Radiouno network has been systematically decommissioning AM trans-

"Infraestructura de Estaciones de Radio FM" at <http://bit.ly/ZPwbBo> has a complete listing of AM stations and their FM assignments. Don't expect co-channel U.S. border stations to be able to increase power or to be reassigned to the open frequencies as Mexican stations disappear from the AM dial. *(Courtesy of EfrenValenciaC via Wikimedia Commons)*

mitter sites. Stations on 567 and 657 kHz were most recently closed earlier this year.

AM Austerity Continues Worldwide

2012 was another tough year for AM radio around the world. Nations continued to disappear from the AM broadcast band.

The end of 2012 marked the end for NRK transmissions on 675 kHz in Norway, leaving 1485 kHz with only 1 kilowatt as the last Nordic station still alive on the AM broadcast band. The megawatt transmitter at 1314 kHz from Norway was once a prime indicator of high latitude reception conditions until it was shut down for good in 2011. NRK finally completed dismantling of the 1314 transmitter site with the antenna towers dynamited last year, ending any glimmer of hope for its return. *(SEE: a video of the toppling towers reported by Aftenposten at <http://bit.ly/YanQtl>. — K8RKD)*

A 250-kilowatt signal on 1062 kHz from Denmark, the lone Danish signal on the AM broadcast band, used to be another beacon for high-latitude propagation until it was silenced in 2011. This was after the operating schedule was significantly reduced in 2007, consisting primarily of cycling the transmitter on for brief periods to broadcast navigational weather reports and news. The transmitter site was dismantled in June 2012, leaving no doubt as to the fate of AM radio in Denmark.

The disappearance of Scandinavia from AM radio first became apparent in 2010 when Sweden ceased all broadcasting on 1179 kHz and shortwave. Radio Sweden's international broadcasting moved entirely to the Internet. The loss of the 600-kilowatt signal on 1179 kHz removed Sweden from the shrinking list of AM radio countries.

Also at the end of last year the Voice of Russia terminated relays from Germany on 630, 1323, and 1431 kHz. Only the 693-kHz Voice of Russia relay from Berlin remains active. In the meantime, Russian broadcaster Radio Mayak has been in the process of moving to FM. It announced the closure of all of its AM transmissions in March, with the exception of 828 Kyzyl and 918 Makhachkala. Some of the more widely received frequencies such as 999 and 1143 kHz are being kept alive with Voice of Russia broadcasts, but for how much longer?

The 300-kilowatt YFR transmission on 1557 kHz from Taiwan fell victim of Family Radio budget cuts, presumed the reckoning of faulty 2012 Armageddon predictions by leader Harold Camping. It's not the end of the world for 1557 though, as Radio Taiwan International has taken over the frequency for now. 1557 is a beacon of trans-Pacific reception conditions.

St. Helena became the latest nation to be deleted from the list of AM radio countries with the closure of 1548 kHz last December. It was resurrected as Saint FM on 93.1, 95.1, and 106.7 MHz in March of this year by a group of radio enthusiasts eager to restore private broadcasting to the island, independent of the government, but the AM station is gone forever.

Other nations once commonly received in the U.S. that have since dropped off the AM radio map (key frequencies in parenthesis) include Austria (1476 kHz), Belize (1530 and 1580 kHz), Cayman Islands (1205 and 1555 kHz), French Guiana (1070 kHz), Greenland (810 and 900 kHz), Jamaica (560, 700, and 750 kHz), Senegal (765 kHz), Switzerland (765 kHz), St. Pierre (1375 kHz), and St. Vincent (705 kHz).

Some of these frequencies will undoubtedly bring back memories of the good ol' days when AM stations didn't operate 24/7 and the band wasn't so crowded.

Mexico Moving to FM

The transition from AM to FM is currently underway in Mexico. The SCT (Mexican equivalent of the FCC) began the process of allocating FM frequencies to AM broadcasters in 2009 with the expectation that AM stations would simulcast on FM for one year minimum and start closing down within five years.

The original plan was more ambitious with AM stations forecasted to close in 2011. Most AM stations are now simulcasting on FM. In most cases AM stations with an XE prefix callsign have been assigned an FM frequency with an XH callsign that carries the same suffix as the AM. For example, XEWGR AM 780 is assigned XHWGR FM 101.1, XERF AM 1570 is assigned XHRF FM 103.9, and so on.

In some cases where an XH callsign already existed with the same suffix as an AM station, an XHE prefix is assigned to the new FM station. For example, XETOR AM is given XHETOR FM.

"Infraestructura de Estaciones de Radio FM" at <http://bit.ly/ZPwbBo> is a complete listing of AM stations and their FM assignments. As Mexican stations disappear from the AM dial, don't expect co-channel U.S. border stations to be able to increase power or to be reassigned to the open frequencies. International agreements will remain in place

which leaves the door open for possible new Mexican AM stations in the future.

AM on FM in the U.S.

In 2009 the FCC revised its rules for FM translators (low-power FM relay stations) to allow simulcasting of AM radio broadcasts. FM translators were originally intended for rebroadcast of an FM signal to fill in dead spots not adequately covered by an FM station's primary coverage area.

Unlike a booster or synchronous transmitter, an FM translator is assigned a different frequency from the station being relayed. An FM translator is not allowed to broadcast separate programming from the station being relayed except in case of emergency. An FM translator is assigned an alphanumeric call-sign beginning with a K or W followed by the FM channel number and a two-letter suffix. For example, 630 WEJL AM Scranton, Pennsylvania, is relayed by FM translators W241AZ and W241BB at 96.1 MHz (channel 241), and W263AL at 100.5 MHz (channel 263).

These translators fill in some of the coverage area lost when WEJL AM must reduce power at night. Hundreds of AM radio stations have taken advantage of the new translator rules to acquire lucrative FM frequencies, and are heavily promoting their FM dial positions.

While some will identify with both AM and FM frequencies like "News Radio 1190 and 102.3 KEX" in Portland, Oregon, relayed by K272EL, others identify almost exclusively by the FM frequency such as 1520 WSVX AM which uses the "Giant 96" moniker in reference to translator 96.5 W243CL in Shelbyville, Indiana, and "The Golden Great 98" 1400 WLTN AM on 98.5 W235AY in Littleton, New Hampshire.

AM stations without FM translators have hooked up with FM sister stations via secondary HD digital channels. Up to four channels can be carried by an FM HD digital signal. 1060 KYW AM is also heard on co-owned 94.1 WIP-FM HD2 in Philadelphia, 1070 KNX AM Los Angeles on 97.1 KAMP FM HD2, and 1200 WXKS AM on 94.5 WJMN HD2 in Boston, just to name a few.

The FCC also relaxed the rules for AM/FM simulcasts on co-owned stations serving the same communities. Co-owned AM and FM stations were previously not allowed to duplicate programming except on a temporary basis.

Restrictions were placed on AM/FM simulcasts in 1964 because it was thought that the practice was slowing the growth of FM radio. The current rules change has given AM radio stations yet a third option to get onboard the FM train. Many legacy 50-kilowatt, clear-channel stations have added FM simulcasts to boost sagging ratings. 750 WSB AM in Atlanta took over co-owned 95.5 WBTS FM, changing it to WSB-FM in 2010, 780 WBBM AM Chicago began simulcasting on 105.9 WCFS FM in 2011, and in New York City 660 WFAN AM bought 101.9 WRXP FM and changed it to WFAN-FM in 2012. Such simulcasts are expected to continue through the foreseeable future as broadcasters are reluctant to give up the multi-state coverage area of a 50-kilowatt, clear-channel AM signal in exchange for FM.

This Month in Broadcast History

75 Years Ago (1938): Philco introduced a new line of Transitone radios for the home, the name brand formerly associated exclusively for automobile radios. Philco bought the Transitone Automobile Radio Corporation in 1930. Transitone model TH-1 was actually based on a design by the Simplex Radio Corporation, a company Philco bought in 1937.

50 Years Ago (1963): "It's My Party" by Leslie Gore took command of the Authentic Top 40 on 4BC Queensland, Australia. *(**WATCH and LISTEN:** To a live performance of "It's My Party" in Australia in 1989 at <http://bit.ly/14jbYsg> **Photo A**. – WPC1CAT)*

Photo A. Leslie Gore reprises her 1963 mega-hit "It's My Party (And I'll Cry If I Want To)" on a tour in Australia circa 1989. *(Internet screen grab <http://bit.ly/14jbYsg>)*

It's My Party ~~~ Leslie Gore ~~~ Melbourne 1989

25 Years Ago (1988): The U.S. Supreme Court decided not to review an appeals court ruling that the FCC "must carry rule" for cable TV was unconstitutional.

Considering Expanding FM's Spectrum

Another hot talking point has been a proposal to expand the lower end of the FM broadcast band into spectrum formerly held by analog TV channels five and six. Most of the analog TV stations in the low VHF band (channels two to six) were reassigned to UHF channels with the switch from analog to DTV, even though they may still identify themselves at low "virtual" channel numbers.

The FM expanded band would accommodate radio broadcasters willing to give up their AM facilities for a full-power FM assignment. This is just in the preliminary discussion stage though, not even close to being formalized.

Has the Train Left the Station?

Are all the changes to boost AM radio listenership too little too late? It might be that both AM and FM are in need of resuscitation. According to a stinging report by Eric Rhodes, publisher of *Radio Ink* magazine, a panel of automotive industry representatives claimed that AM/FM radio will be eliminated from the dash of two car companies in the next two years, and eliminated from all cars in five years.

Shown here is the base of the former 1062-kHz antenna in Kalundborg, Denmark, with the two 153-kHz longwave towers in the background. *(Courtesy of SkyscraperCity.com)*

Young people are choosing alternative Internet and wireless platforms over conventional radio, and the car companies are ready to comply.

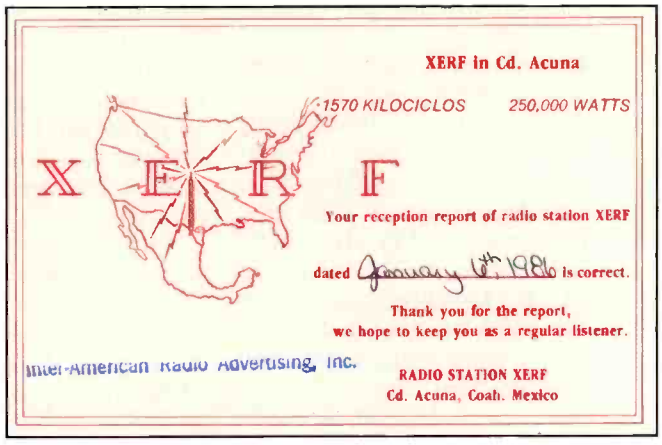
Replacing the AM/FM radio with wireless apps like iHeart would put local radio broadcasters in direct competition with hundreds of radio stations while on the road. Rhodes called this the most important "unofficial" announcement in history regarding the future of broadcast radio. Don't believe it? Read the full story at <http://bit.ly/ZPyBzZ>.

AM on the Rebound

Not all the news is *bad* for AM worldwide. Although AM radio has been experiencing a slow decline in the **Czech Republic**, new AM licenses have been granted for Radio Impulse on 981 kHz and Radio Dechovka on 1224 kHz. The last major round of government closures was in 2004 when Cesky rozhlas (Czech radio) stations at 1071, 1233, and 1287 kHz were shutdown. Cesky rozhlas continues to broadcast at 639, 954, and 1332 kHz, while Country Radio can still be found at 1062 kHz.

The UR1 network of AM radio stations scheduled to shutdown in **Ukraine** have been given a reprieve by the prime minister, reactivated at 657, 711, 837, 972, and 1044 kHz. Their status remains tenuous as Ukraine Radio has been going through these on-again/off-again cycles rather frequently in the past few years. UR1 stations were last silenced for a brief period in May 2012.

Spirit Radio reactivated the AM dial in **Ireland** on 549 kHz with its Christian programming. The frequency was formerly known for pirate radio station Irish/United Christian Broadcasters until it was taken off the air in 2006. After much speculation about possible reactivation of former RTE network facilities, instead Spirit Radio signed on 549 kHz last August.


XERF in Cd. Acuna
1570 KILOCICLOS
250,000 WATTS
X E R F
Your reception report of radio station XERF
dated January 16th, 1986 is correct.
Thank you for the report,
we hope to keep you as a regular listener.
Inter-American Radio Advertising, Inc.
RADIO STATION XERF
Cd. Acuna, Coah. Mexico

1570 XERF is voluntarily exchanging its historic super-power AM station for an FM assignment at 103.9 as XHRF, part of the major transition from AM to FM underway in Mexico.

Spirit Radio is a relatively new Irish broadcaster, first signing on FM in January 2011. Government broadcaster RTE dropped AM in 2008 with the closure of transmitters at 567 and 729 kHz, after 612 kHz went dark in 2004.

The Caribbean nation of **St. Kitts and Nevis** returned to the airwaves at 555 kHz with 5 kilowatts in February after nearly a year off the air. 555 stands alone as the only remaining "split" frequency signal of what were once numerous stations broadcasting between the standard 10-kHz channels in the Caribbean and Latin America. Additionally, Radio Paradise on 840 kHz and Voice of Nevis on 860 kHz ensure that St. Kitts will remain heard on AM for at least the near future.

Cuba remains the most radio-active nation in the Caribbean with stations popping up and changing frequencies almost at will. Radio Bayamo has been logged on 1620 kHz along with two or more co-channel Radio Rebelde signals. New Radio Progreso and Radio Rebelde outlets have been heard on 1210 and 1550 kHz. Radio Cadena Agramonte, Radio Musical, Radio Rebelde, and Radio Surco have all been heard on the very active frequency of 1140 kHz, perhaps an effort to block reception of co-channel Radio Univision América broadcasts from WQBA in Miami.

Twenty transmitter sites are listed for Radio Rebelde on 1180 kHz alone, obviously designed to block reception of VOA Radio Martí broadcasts beamed to Cuba on the same frequency from the Florida Keys.

India is making a substantial investment in DRM digital broadcasting on AM radio, reported by industry insiders as the world's largest digital radio deployment. All India Radio (AIR) recently purchased six new Nautel 300-kilowatt transmitters configured for DRM transmissions as part of an aggressive plan to upgrade facilities nationwide. Meanwhile, a new megawatt AM transmitter is in operation at 1071 kHz from Rajkot broadcasting AIR to Pakistan.

The Broadcasting Board of Governors (the U.S. government agency that oversees all international broadcasting including the Voice of America) continues to invest in AM for the **Middle East**. Radio Free Afghanistan on 1296 kHz, Radio Free Iraq on 1593 kHz, Radio Farda on 1575 kHz, and Radio Sawa on 1170, 1431, and 1548 kHz are all located within this volatile region with high-power transmissions often received well beyond their intended audience.

Libya has returned to AM after operations became intermittent during the Arab Spring uprising. The newly formed Radio Free Libya fully restored AM service on 675, 1053, 1125, and 1449 kHz, although transmissions aren't always exactly on frequency. Measurable offsets at 1053.1 and 1126.507 kHz are listed in the latest mwoffsets data <http://bit.ly/10cLFyz>. Another significant offset signal from Libya has been noted at 690.9 kHz. For DXers these unique offsets can make station identification possible just by accurate frequency measurement without hearing audio.

ZIZ has returned to the AM airwaves at 555 kHz, the last of the split frequency signals that were once common throughout the Caribbean and Latin America.

1520 WSVX AM identifies as Giant 96, relayed by FM translator W243CL on 96.5 MHz in Shelbyville, Indiana.

Cape Town, South Africa boasts a new AM radio station. Afrikaans-language station Radio Kansel is in its first year of broadcasting on 729 kHz <http://www.radiokansel.co.za>. Radio Veritas is another new station that's been on the air for over a year now at 576 kHz, reactivating the former Radio Metro facilities.

TransWorld Radio is reported to be expanding services to South Sudan, which may include new AM operations. TransWorld Radio currently transmits from two key sites in Africa; 1170 Swaziland and 1566 Benin <http://bit.ly/WR2aRU>. The activation of AM radio in South Sudan would create a new AM radio country.

Closer to home, while the overall transition from AM to FM continues in **Canada**, the *mega city* markets of Montreal, Toronto, and Windsor-Detroit are bucking the trend. This year 540 CBEF Windsor and 990 CKGM Montreal completed moves to 1550 and 690 respectively, reactivating clear-channel frequencies previously vacated by the CBC.

Montreal has been especially active with changes to the AM dial. 600, 940, 990, and 1410 kHz in Montreal are expected to be back on the air soon. The CRTC (Canadian agency equivalent of the FCC) has approved a new English news/talk station on 600 along with a French counterpart on 940 kHz.

Radio Fierté, another new station, will serve Montreal's gay community on 990 kHz. Meanwhile the move of CJWI from 1610 to 1410 kHz, the frequency formerly occupied by CFMB, is underway. The WI in the callsign stands for "West Indies" as the station broadcasts primarily Haitian programs. Multicultural CFMB moved to 1280 kHz way back in 1997, replacing French-language CJMS which since returned on 1040 kHz.

Concurrently, it's unfortunate that Quebec City has earned the distinction of largest city in Canada without an AM radio station after 800 CHRC signed off last September. However, Prince Edward Island is currently the only Canadian province without an AM radio station, although the silent three-tower array of 630 CFCY still stands in Charlottetown.

Not Dead Yet

The U.S. isn't the only country where the AM dial remains congested with stations contrary to the dire prognosis by pessimistic industry analysts. AM radio stations are prolific in Asian-Pacific nations such as China, Japan, Philippines, and Thailand, while signals also continue to hold their own from Down Under, and in Latin America countries including Argentina, Brazil, Colombia, and Peru maintain a huge presence.

Still, the poor health of AM radio can't be ignored. The Arbitron ratings service has reported that nearly three out of four radio listeners in the U.S. never tune into AM, and at any given time some 80 percent of radio listeners are tuned to FM. Yet if this global survey of AM radio activity is any indication, "Antique Modulation" won't be going away anytime soon.

– 73 and Good DX – WPC1CAT

660 WFAN in New York City can now be heard on 101.9 WFAN-FM, one of many legacy clear-channel AM stations across the U.S. taking advantage of FCC deregulation of AM/FM simulcast rules.